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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/661,967	09/12/2003	Steve Klotz	15436.252.5.1	8989

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EXAMINER	
CHEA, PHILIP J	
ART UNIT	**PAPER NUMBER**
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/661,967	KLOTZ ET AL.	
	Examiner	Art Unit	
	PHILIP J. CHEA	2453	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 February 2009*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9 and 22-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9 and 22-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *10/28/08; 2/26/09*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This Office Action is in response to an Amendment filed February 26, 2009. Claims 1-9,22-27 are currently pending. Any rejection not set forth below has been overcome by the current Amendment.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1-2,4-5,24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (US 5,850,388), herein referred to as Anderson, and further in view of Hamilton et al. (US 6,975,963), herein referred to as Hamilton, and further in view of Weber (US 6,134,617).

As per claims 1,26, Anderson discloses a method for analyzing a network, as claimed, comprising:

capturing a data trace representative of a network operation (see column 10, lines 50-65, where the a data trace is performed in order to calculate network operation parameters such as, traffic statistics and error statistics);

determining the network topology from the data trace (see column 11, lines 57-67, where the topology is determined by monitoring and recording stations that are in the network);

dividing a sample duration window of the trace into a first predetermined number of intervals (see Fig. 19A, where the trace is divided into 4 second intervals);

calculating an initial state for each device in the network topology for at least one of the first predetermined number of intervals (see column 13, lines 52-67, *where initial states are calculated (i.e. a "Start" step where frames are sent through the network by devices)* and see column 14, lines 1-4 *for the predetermined sampling period interval of one second*) based upon events that occur outside the sample duration window (see column 28, lines 10-17, *where Protocol Distribution (Cumulative) can be initialized*

to display intervals based upon events that occur outside the sample duration window and events occur outside the sample duration window because it includes event data collected since the monitoring session began versus a user-defined sampling period); and

displaying network analysis information based upon the initial states and the network topology to the user (see Figs. 19A-19C, where the analysis information collected from the network trace is displayed for the user).

Although the system disclosed by Anderson shows substantial features of the claimed invention (discussed above), it fails to disclose display average values of network analysis information and adjusting the sample duration window to display individual values of the network analysis information.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Anderson, as evidenced by Hamilton.

In an analogous art, Hamilton discloses a method for reporting data network monitoring information by accessing performance metric values for a network component and generating a trace of graph data points for the performance metric values (see Abstract). Hamilton further discloses displaying average values of network analysis information (see column 14, lines 39-44, *describing the display of average histogram points related to the analysis information*) and adjusting the sample duration window to display individual values of the network analysis information (see column 5, lines 29-36 and column 15, lines 31-38, *describing how individual values may be displayed rather than just the average*).

Given the teaching of Hamilton, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Anderson by employing the display of average values and adjusting the sample to display individual values, such as disclosed by Hamilton, in order to retain historical data without losing or hiding high and low value that can be caused by value averaging.

Although the system disclosed by Anderson-Hamilton shows substantial features of the claimed invention (discussed above), it fails to disclose determining the network topology from loop primitives in the data trace.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Anderson-Hamilton, as evidenced by Weber.

In an analogous art, Weber discloses a system for transferring data from a host to a node though a fabric connecting the host to the node and a link control unit provided in which loop management is provided when the host is connected to a loop (see Abstract). Weber further discloses initiating acquisition of the loop and initiate a release of the loop in response to conditions in which data is received and transmitted by the host and by other nodes on the loop (see Abstract), and determining the network topology from loop primitives in a data trace (see column 16, lines 20-30, *describing how the link control unit can determine if there are loops in the network and provide additional functions in managing the loops*).

Given the teaching of Weber, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Anderson-Hamilton by employing determination of loop primitives, such as disclosed by Weber, in order to determine which node has the right to transmit data and monitor the node and loop activity to maximize overall performance.

As per claim 24, Weber further discloses wherein at least one of the loop primitives corresponds to a device in the network claiming, utilizing, or releasing a network resource (see column 16, lines 35-37).

As per claim 25, Hamilton further discloses determining where switches are positioned in the network (see column 7, lines 52-64).

As per claim 26, Hamilton discloses determining where switches are positioned in the network (see column 7, lines 52-64), Weber discloses discovering loop primitives (see column 16, lines 20-25). It is not expressly stated whether the network topology includes loops before determining that the network topology includes switches. However, at the time of the invention, one of ordinary skill in the art would have found it obvious to determine the network topology in any order. That is, order of discovering devices or elements of a network is arbitrary and obvious to the user that is discovering the network.

As per claim 2, Anderson further discloses allowing a user to adjust a sample duration window (see column 13, lines 29-37, where sampling period is considered sampling duration window).

As per claim 4, Anderson further discloses that adjusting the sample duration window comprises adjusting the granularity of a displayed sample analysis (see Fig. 19A and a column 13, lines 32-36, where network granularity from a sample size of 4 seconds can be changed to a finer granularity of a sample size of 1 second).

As per claim 5, Anderson further discloses storing a snapshot of the network analysis information (see Figs. 19A-19C, showing a stored snapshot of the network).

3. Claims 3,6-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson-Hamilton-Weber as applied to claim 2 above, and further in view of Garg et al. (US 6,327,677), herein referred to as Garg.

As per claim 3, Anderson does not expressly disclose dividing the sample duration window into a second predetermined number of equal intervals, determining a calculated initial state that immediately precedes a first interval in the sample duration window; calculating a valid starting state for each device on the network for the first interval in the sample duration based upon the determined preceding state; and calculating initial states for each device on the network for each of the second predetermined intervals based upon the valid starting state and the data trace.

However, Anderson discloses dividing a duration of the trace into a first predetermined number of equal intervals (see Fig. 19A, where the trace is divided into 4 second intervals) and that a sample duration window can be adjusted (column 13, lines 32-36). It would have been obvious to one of ordinary skill in the art to adjust a sample duration from 4 seconds as pictured in Fig. 19A, to a more refined sample window of 1 second as disclosed in column 13, lines 32-36 in order to extract more details about the network. Furthermore, Garg discloses dividing the sample duration window into a second predetermined number of equal intervals (see Fig. 4, describing how a sample duration window is divided into a second predetermined number of equals from five minute samples to one hour samples). Therefore, after adjusting the sample duration window, Garg implies determining a calculated initial state that immediately precedes a first interval in the sample duration window (i.e. determining the starting point

of the data trace); calculating a valid starting state for each device on the network for the first interval in the sample duration based upon the determined preceding state (i.e. calculating the starting state of the devices in relation to the new sample duration window); and calculating initial states for each device on the network for each of the second predetermined intervals based upon the valid starting state and the data trace (i.e. calculating initial states for each device on the network in relation to the new sample duration window).

As per claim 6, Anderson further discloses storing a snapshot of the calculated initial states for each device over the second predetermined intervals (i.e. Figs.19A-19C would show snapshots for each device based on the new sample duration window).

As per claim 7, Anderson further discloses generating errors and metrics representative of the sample duration window (see column 13, lines 38-50).

As per claim 8, Anderson further discloses allowing a user to select the sample window (see column 13, lines 32-36) and the predetermined number of intervals (see column 5, lines 7-10).

As per claim 9, Anderson further discloses allowing the user to select a plurality of parameters to be displayed in the sample window (see Figs. 19A-19C, showing different parameters displayed such as, Network Utilization, Network Frame Rate, and Frame Size Distribution).

4. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson-Hamilton-Weber as applied to claim 1 above, and further in view of Gvozdanovic (US 6,600,720).

Although the system disclosed by Anderson-Hamilton-Weber shows substantial features of the claimed invention (discussed above), it fails to disclose that the network analysis information includes tenancy metrics describing a rate at which a device in the network is capable of bursting data.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Anderson-Hamilton-Weber, as evidenced by Gvozdanovic.

In an analogous art, Gvozdanovic discloses monitoring current traffic output from a source and comparing the monitored current traffic with capacity on the link and providing a control signal for varying the operational state of the traffic source according to the comparison (see Abstract). Gvozdanovic

further discloses the need to monitor applications that are capable of producing short bursts of data at a short term rate in excess of a peak cell rate (see column 6, lines 8-10, *where PCR is peak cell rate*).

Given the teaching of Gvozdanovic, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Anderson-Hamilton-Weber by employing network analysis information describing a rate at which a device in the network is capable of bursting data, such as disclosed by Gvozdanovic, in order to determine if traffic shaping is required on an ATM to support the data bursts.

5. Claim 23 is rejected under 35 U.S.C. 103(a) as being unpatentable over Anderson et al. (US 5,850,388), herein referred to as Anderson, and further in view of Voigt et al. (US 5,623,598), herein referred to as Voigt, and further in view of Hamilton et al. (US 6,975,963), herein referred to as Hamilton, further in view of Weber (US 6,134,617).

Anderson discloses a method for analyzing a network, as claimed, comprising:

capturing a data trace representative of a network operation (see column 10, lines 50-65, where the a data trace is performed in order to calculate network operation parameters such as, traffic statistics and error statistics);

determining the network topology from the data trace (see column 11, lines 57-67, where the topology is determined by monitoring and recording stations that are in the network);

dividing a sample duration window of the trace into a first predetermined number of intervals (see Fig. 19A, where the trace is divided into 4 second intervals);

calculating an initial state for each device in the network topology for at least one of the first predetermined number of intervals (see column 13, lines 52-67, *where initial states are calculated (i.e. a "Start" step where frames are sent through the network by devices)* and see column 14, lines 1-4 *for the predetermined sampling period interval of one second*) based upon events that occur outside the sample duration window (see column 28, lines 10-17, *where Protocol Distribution (Cumulative) can be initialized to display intervals based upon events that occur outside the sample duration window and events occur*

outside the sample duration window because it includes event data collected since the monitoring session began versus a user-defined sampling period) and

displaying metrics based upon the initial states and the network topology to the user (see Figs. 19A-19C, *where the analysis information collected from the network trace is displayed for the user*).

Although the system disclosed by Anderson shows substantial features of the claimed invention (discussed above), it fails to disclose displaying exchange completion time (ECT) metrics.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Anderson, as evidenced by Voigt.

In an analogous art, Voigt discloses a method for providing for identifying areas for performance improvement in a data storage system by sampling a performance metric during operation of a data storage system and presenting to a user a performance history that is indicative of how the data storage system is performing over a period of time (see Abstract). Voigt further discloses that the performance metrics include the total number of blocks read by the host, the total number of blocks written to the host, and the amount of time during which commands were outstanding from the host (see column 5, lines 1-4). Since Applicants Specification on page 64, paragraph 126, lines 2-4, show that the completion time is a time a command is issued to the first data frame returning in response to the command, Voigt's time metric of the amount of time during which commands were outstanding from the host is considered the (ECT).

Given the teaching of Voigt, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Anderson by employing ECT metrics, such as disclosed by Voigt, in order to monitor or anticipate situations which adversely impact performance.

Although the system disclosed by Anderson-Voigt shows substantial features of the claimed invention (discussed above), it fails to disclose adjusting the sample duration window to zoom in to the displayed ECT metrics at a point immediately prior to a spike in the ECT metrics.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Anderson-Voigt, as evidenced by Hamilton.

In an analogous art, Hamilton discloses a method for reporting data network monitoring information by accessing performance metric values for a network component and generating a trace of graph data points for the performance metric values (see Abstract). Hamilton further discloses adjusting the sample duration window to display individual values of the network analysis information (see column 5, lines 29-36 and column 15, lines 31-38, *describing how high and low individual values may be displayed*). Since a spike is considered a high value and a range selector can be toggled, it is obvious that the range can be selected so that the window displays ECT metrics just before the high point.

Given the teaching of Hamilton, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Anderson-Voigt by adjusting the sample to display individual values, such as disclosed by Hamilton, in order to retain historical data without losing or hiding high and low value that can be caused by value averaging.

Although the system disclosed by Anderson-Voigt-Hamilton shows substantial features of the claimed invention (discussed above), it fails to disclose determining the network topology from loop primitives in the data trace.

Nonetheless, these features are well known in the art and would have been an obvious modification of the system disclosed by Anderson-Voigt-Hamilton, as evidenced by Weber.

In an analogous art, Weber discloses a system for transferring data from a host to a node though a fabric connecting the host to the node and a link control unit provided in which loop management is provided when the host is connected to a loop (see Abstract). Weber further discloses initiating acquisition of the loop and initiate a release of the loop in response to conditions in which data is received and transmitted by the host and by other nodes on the loop (see Abstract), and determining the network topology from loop primitives in a data trace (see column 16, lines 20-30, *describing how the link control unit can determine if there are loops in the network and provide additional functions in managing the loops*).

Given the teaching of Weber, a person having ordinary skill in the art would have readily recognized the desirability and advantages of modifying Anderson-Voigt-Hamilton by employing

determination of loop primitives, such as disclosed by Weber, in order to determine which node has the right to transmit data and monitor the node and loop activity to maximize overall performance.

Response to Arguments

6. Applicant's arguments with respect to claims 1-9,22-27 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHILIP J. CHEA whose telephone number is (571)272-3951. The examiner can normally be reached on M-F 6:30-4:00 (1st Friday Off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on 571-272-4001. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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5/6/09

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